



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Alexey D. Zinin

Title: PROTECTION OF NETWORK INFRASTRUCTURE AND  
SECURE COMMUNICATION OF CONTROL INFORMATION  
THERTO

App. No.: 10/782,390

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Examiner: Chriss, Andrew W

Group Art Unit: 2472

Atty. Docket No.: 1400.1376750

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Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

**APPEAL BRIEF**

Dear Sir:

In response to the Notice of Appeal filed February 14, 2011, Appellant submits the following:

This appeal is taken under 35 U.S.C. § 134. A final Office action rejecting claims 1-38 has a mail date of September 8, 2010. A notice of appeal and a petition for extension of time were received at the United States Patent and Trademark Office on February 14, 2011. This appeal brief and a petition for extension of time are being mailed June 14, 2011.

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**REAL PARTY IN INTEREST**

As presently advised, Alcatel-Lucent Canada Inc. is the real party in interest in this appeal by virtue of an executed Assignment of the entire interest from the named Inventor(s), Alexey D. Zinin, to Alcatel-Lucent Canada Inc. recorded in the United States Patent and Trademark Office on June 10, 2004 at Reel 015457, Frame 0050, followed by a Certificate of Amalgamation from Alcatel Canada Inc. to Alcatel-Lucent Canada Inc. dated January 1, 2007. Appellant encloses copies of the above-referenced Assignment and Certificate of Amalgamation.

### **RELATED APPEALS AND INTERFERENCES**

As presently advised, there are no other prior or pending appeals, interferences, or judicial proceedings known to Appellant, the Appellant's legal representative, or Assignee which may be related to, directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

## **STATUS OF CLAIMS**

Claims 1-38 are pending in the present application. Claims 1-38 are finally rejected, the rejection of which is being appealed.

## **STATUS OF AMENDMENTS**

Appellant has not amended the specification, drawings, or claims subsequent to final rejection.

## SUMMARY OF CLAIMED SUBJECT MATTER

1. (Previously Presented) A method for communicating Layer-3 control information in a communications network comprising the steps of:  
marking packets carrying the Layer-3 control information;  
encapsulating the packets at Layer-2 to uniquely identify Layer-2 frames as carrying trusted control information.
2. (Original) The method of claim 1 wherein the step of marking further comprises:  
marking the packets using a unique protocol identifier.
3. (Original) The method of claim 1 wherein the step of marking further comprises:  
marking the packets using a link-local MPLS label.
4. (Original) The method of claim 1 further comprising the step of:  
applying interface groups to determine when marking of control packets is to be done.
5. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:  
applying interface groups to packet communications within a particular interface group.
6. (Original) The method of claim 5 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:  
applying interface groups to packet communications within a backbone interface group.

7. (Original) The method of claim 5 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:

applying interface groups to packet communications within a customer-specific interface group.

8. (Original) The method of claim 5 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:

applying interface groups to packet communications within a peer interface group.

9. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:

applying interface groups to packet communications between interface groups.

10. (Original) The method of claim 9 wherein the step of applying interface groups to packet communications between interface groups further comprises the step of:

applying interface groups to packet communications between backbone and customer-specific interface groups.

11. (Original) The method of claim 9 wherein the step of applying interface groups to packet communications between interface groups further comprises the step of:

applying interface groups to packet communications between customer-specific and peer interface groups.

12. (Original) The method of claim 9 wherein the step of applying interface groups

to packet communications between interface groups further comprises the step of: applying interface groups to packet communications between backbone and peer interface groups.

13. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of ICMP packets.

14. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of ping packets.

15. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of traceroute packets.

16. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of packets from Network Operations Center (NOC) hosts.

17. (Original) The method of claim 1 wherein the step of encapsulating the packets further comprises:

encapsulating the packets according to control encapsulation.

18. (Original) The method of claim 1 further comprising:

receiving unmarked control packets using rate-limited queues.

19. (Original) The method of claim 1 further comprising:  
receiving the packets as received packets; and  
processing the received packets at a line rate.

20. (Previously Presented) An apparatus comprising a network element for  
communicating Layer-3 control information in a communications network adapted to  
perform the steps of:  
marking packets carrying the Layer-3 control information;  
encapsulating the packets at Layer-2 to uniquely identify Layer-2 frames as carrying  
trusted control information.

21. (Original) The apparatus of claim 20 wherein the step of marking further  
comprises:  
marking the packets using a unique protocol identifier.

22. (Original) The apparatus of claim 20 wherein the step of marking further  
comprises:  
marking the packets using a link-local MPLS label.

23. (Original) The apparatus of claim 20 wherein the network element is further  
adapted to perform the step of:  
applying interface groups to determine when marking of control packets is to be done.

24. (Original) The apparatus of claim 23 wherein the step of applying interface

groups further comprises the step of:  
applying interface groups to packet communications within a particular interface group.

25. (Original) The apparatus of claim 24 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:  
applying interface groups to packet communications within a backbone interface group.

26. (Original) The apparatus of claim 24 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:  
applying interface groups to packet communications within a customer-specific interface group.

27. (Original) The apparatus of claim 24 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:  
applying interface groups to packet communications within a peer interface group.

28. (Original) The apparatus of claim 23 wherein the step of applying interface groups further comprises the step of:  
applying interface groups to packet communications between interface groups.

29. (Original) The apparatus of claim 28 wherein the step of applying interface groups to packet communications between interface groups further comprises the step of:

applying interface groups to packet communications between backbone and customer-specific interface groups.

30. (Original) The apparatus of claim 28 wherein the step of applying interface groups to packet communications between interface groups further comprises the step of:

applying interface groups to packet communications between customer-specific and peer interface groups.

31. (Original) The apparatus of claim 28 wherein the step of applying interface groups to packet communications between interface groups further comprises the step of:

applying interface groups to packet communications between backbone and peer interface groups.

32. (Original) The apparatus of claim 23 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of ICMP packets.

33. (Original) The apparatus of claim 23 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of ping packets.

34. (Original) The apparatus of claim 23 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of traceroute packets.

35. (Original) The apparatus of claim 23 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of packets from Network Operations Center (NOC) hosts.

36. (Original) The apparatus of claim 20 wherein network element is further adapted to encapsulate the packets according to control encapsulation.

37. (Original) The method of claim 20 wherein the network element is further adapted to receive unmarked control packets using rate-limited queues.

38. (Original) The apparatus of claim 20 wherein the network element is further adapted to receive the packets as received packets and to process the received packets at a line rate.

## **GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The grounds of rejection to be reviewed on appeal are as follow:

### **The First Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 1, 2, 4, 17, 20, 21, 23 and 36 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1).

### **The Second Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 3 and 22 under 35 U.S.C. 103(a) as being unpatentable over McDysan (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 1 and 20 above, and further in view of Nakamichi et al (U.S. Patent Application Publication US 2002/0085498 A1).

### **The Third Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 5-12 and 24-31 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 4 and 23 above, and further in view of Yu et al. (United States Patent Application Publication US 2004/0010583 A1).

**The Fourth Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 13 and 32 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 4 and 23 above, and further in view of Holden et al. (United States Patent No. 5,802,178).

**The Fifth Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 14 and 33 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 4 and 23 above, and further in view of Pan et al. (United States Patent 7,336,615).

**The Sixth Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 15 and 34 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent No. 7,046,680) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 4 and 23 above, and further in view of Fotedar et al. (United States Patent Application Publication 2004/0085965 A1).

**The Seventh Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 16 and 35 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US

2002/0067725 A1) as applied to claims 4 and 23 above, and further in view of Tuomenoksa et al. (United States Patent Application Publication 2002/0023210 A1).

**The Eighth Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 18 and 37 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 1 and 20 above, and further in view of Johansson (United States Patent 6,061,330).

**The Ninth Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 19 and 38 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 1 and 20 above, and further in view of Hussey et al. (United States Patent Application Publication 2001/0049744 A1).

## ARGUMENT

Claims 1-38 are pending in the application. The Examiner has rejected claims 1-38. Appellant appeals the rejection of claims 1-38.

Appellant submits there exist clear errors in the Examiner's rejections and/or the Examiner's omissions of one or more essential elements needed for a *prima facie* rejection. Appellant submits the Examiner's "Response to Arguments" provides evidence that the Examiner has failed to consider the pending claims as required by the Manual of Patent Examining Procedure (MPEP) and prevailing case law. MPEP § 2141 sets forth the Graham inquiries for a rejection under 35 U.S.C. § 103. *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966). MPEP § 2143 describes examples of basic requirements of a *prima facie* case of obviousness under 35 U.S.C. § 103. As Appellant describes in detail below, Appellant submits there exist clear errors in the Examiner's rejections and/or the Examiner's omissions of one or more essential elements needed for a *prima facie* rejection.

MPEP § 2141 states, in part, as follows:

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

*Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

Appellant submits the Examiner has failed to consider the claimed subject matter as a whole but rather makes allegations with respect to one or more aspects of the claimed subject matter that contradict allegations the Examiner makes with respect to one or more other aspects of the claimed subject matter, as Appellant details below. Appellant submits the Examiner appears to fail to consider the references as a whole, ignoring, for example, portions of the reference that "teach away," and thereby teach against the desirability and thus the obviousness of making the combination, as Appellant details below. Appellant submits the Examiner appear to apply impermissible hindsight vision, attempting to contort the alleged teachings of the cited portions of the cited references to yield a modification that Appellant shows below, in many instances, to be inoperable. Appellant submits the Examiner does not appear to meet the reasonable expectation of success standard but rather fails to provide a plausible rationale as to how the cited references could allegedly work together, as Appellant details below. Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to the claimed subject matter.

For the Examiner to establish a *prima facie* case of obviousness under 35 U.S.C. § 103(a), Appellant submits the Examiner must, as a minimum, show that the claimed inventions as a whole (i.e. each and every element of the claimed invention in the claimed configuration) must have been obvious to one of skill in the art at the time the invention was made. MPEP § 2142. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). As shown below, the Examiner's rejection of the claims fails to take into account each and every element of the claimed invention and fails to show that the

claimed invention as a whole would be obvious to one of ordinary skill in the art at the time the invention was made. Accordingly, the Examiner fails to establish a *prima facie* case of obviousness.

**The First Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 1, 2, 4, 17, 20, 21, 23 and 36 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1). Appellant respectfully disagrees.

**Claim 1:**

Regarding claim 1, Appellant submits the cited portions of the cited references do not render obvious the subject matter of claim 1. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "marking packets carrying the Layer-3 control information." While the Examiner states, "McDysan discloses marking packets carrying Layer-3 control information (paragraphs 0037 and 0042, wherein packets are marked with a differentiated services code point (DSCP) value)," Appellant submits none of the cited portions of the cited references appear to teach or suggest, for example, "Layer-3 control information." Moreover, Appellant submits the Examiner's allegation of "which is known in the art as an implementation of 'Layer-3' in the OSI 7-layer Interconnect Model (i.e., the network layer)" does not appear to allege teaching as to, for example, "Layer-3 control information." Moreover, it isn't clear what noun or noun phrase the Examiner is using the word "which" to refer back to in alleging "which is known in the art as an implementation of 'Layer-3' in the OSI 7-layer Interconnect Model (i.e., the network layer)." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 1.

Also, Appellant notes paragraph [0042] of the McDysan (US 2003/0112755 A1) reference states, in part, "Marker M0 remarks all packets received at LP-2 110b with DSCP 0000, thus identifying the packets as best-effort traffic." Appellant submits "Marker M0 remarks all packets received..." fails to disclose or suggest, and teaches away from, "marking packets carrying the Layer-3 control information." Therefore, Appellant submits claim 1 is in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 1 and 20, the Examiner states as follows:

Regarding Claims 1 and 20, Applicant states "none of the cited portions of the cited references appear to teach or suggest, for example, "Layer-3 control information." Examiner respectfully disagrees. Examiner notes that Applicant has not specifically pointed out how the language of the claims patentably distinguishes them from the references. Examiner turns to Applicant's specification at paragraph 0004, which defines the OSI 7-layer model. More specifically, the network layer is defined as Layer-3. Examiner further turns to The OSI Reference Model, which was provided to Applicant with the Office Action mailed June 5, 2009, wherein Layer-3 (i.e., the Network Layer) corresponds to the Internet Protocol (IP). Turning to the McDysan reference, paragraph 0009 recites: "Diffser is an IP QoS architecture that achieves scalability by conveying an aggregate traffic classification within a DS field (e.g., the IPv4 Type of Service (TOS) byte or IPv6 traffic class byte) of each IP-layer packet header. The first six bits of the DS field encode a Diffser Code Point (DSCP) that requests a specific class of service or Per Hop Behavior (PHB) for the packet at each node along its path within a Diffser domain.." Examiner further notes that the claimed "control information" is not further defined in the claim language so as to require a structure or feature of said information other than being "Layer-3 control information." As the DSCP disclosed in McDysan controls the QoS applied to a packet (e.g., in paragraphs 0037 and 0042) and further is indicative of an IP QoS (i.e., Layer-3), Examiner submits that the claim limitation "Layer-3 control information" is met by the disclosure of McDysan. Applicant further states paragraph 0042 of McDysan "fails to disclose or suggest, and teaches away from "marking packets carrying the Layer-3 control information."

Examiner respectfully disagrees. Examiner notes that while alleging that the disclosure of McDysan teaches away from marking packets, Applicant has not specifically pointed out how the disclosure teaches away or how the language of the claims patentably distinguishes them from the references. As described above, McDysan discloses marking packets via a DSCP code point in IP packets, and therefore meets the claim limitation "marking packets carrying the Layer-3 control information."

Appellant notes the Examiner alleges "...McDysan discloses marking packets via a DSCP code point in IP packets, and therefore meets the claim limitation 'marking packets carrying the Layer-3 control information.'" However, Appellant notes the Examiner also alleges, "As the DSCP disclosed in McDysan controls the QoS applied to a packet (e.g., in paragraphs 0037 and 0042) and further is indicative of an IP QoS (i.e., Layer-3), Examiner submits that the claims limitation "Layer-3 control information" is met by the disclosure of McDysan." However, if the Examiner is alleging that "the DSCP disclosed in McDysan" is the basis for the Examiner's contention "that the claims limitation 'Layer-3 control information' is met by the disclosure of McDysan," then Appellant submits the Examiner has not shown any portion of the cited references to disclose or suggest "...marking packets carrying the Layer-3 control information." However, if the Examiner is alleging that "...McDysan discloses marking packets via a DSCP code point in IP packets...," then Appellant submits the Examiner has not shown any portion of the cited references to disclose or suggest "...packets carrying the Layer-3 control information." Thus, Appellant submits the Examiner has not shown any portion of the cited references to disclose or suggest, for example, "...marking packets carrying the Layer-3 control information."

As another example, Appellant submits the Examiner has not alleged teaching as to "...encapsulating the packets at Layer-2 to uniquely identify Layer-2 frames as carrying trusted control information." While the Examiner cites "(paragraph 0215, Figure 25, wherein a packet containing L2TP is encapsulated with a PPP or Ethernet header)" and alleges teaching as to "...an implementation of 'Layer 2' of the OSI 7-layer Interconnect Model (i.e., the data link layer)," Appellant submits the Examiner does not allege teaching of "...to uniquely identify Layer-2 frames as carrying trusted control information." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to the subject matter of claims 1 or 20. Therefore, Appellant submits claims 1 and 20 are in condition for allowance.

Appellant submits the Court of Appeals for the Federal Circuit has also found "teaching away" to support a finding of non-obviousness even after *KSR*. For example, in *Crocs, Inc. v. ITC* (Fed. Cir. 2010), the Court found a footwear piece having "a strap section formed of a molded foam material" to be non-obvious where "the prior art showed that foam was an unsuitable material for shoe straps." In *Ricoh Co. v. Quanta Computer Inc.* (Fed. Cir. 2008), the Court stated, "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant."

Also, the Board of Patent Appeals and Interferences has, also in the post-*KSR* time frame, stated, "It is also a legal principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious." *In re Ikeda*, Appeal 2008-0492 (March 26, 2008). The Board also stated, "When the prior art teaches away from the claimed solution [], obviousness cannot be proven merely by showing that a known composition could have been modified by routine experimentation or solely on the expectation of success." *Ex parte Whalen*, (July 23, 2008). Thus, Appellant submits the Examiner's proposition as to allegedly establishing obviousness must be understood in the context of case law and Office practice that recognizes that evidence of "teaching away" undermines such an allegation of obviousness. Accordingly, Appellant submits the Examiner's rejection of claim 1 is improper.

Furthermore, while the Examiner alleges various teachings with respect to different references, even assuming arguendo the merit of the Examiner's allegations, Appellant submits "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements is, independently, known in the prior art." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 405, 418 (2007). Appellant submits the

Examiner has not provided a plausible rationale as to why the prior art references would have worked together to render the claims obvious. *Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343 (Fed. Cir. 2010). As an example, Appellant submits the Examiner's alleged motivation as to "in order to find virtual routers on edge routers belonging to the same VPN so that the virtual routers belonging to the same VPN can be mutually connected with tunnels (such as the L2TP tunnel or the IPsec tunnel) in case routing information is exchanged between the virtual routers belonging to the same VPN (see paragraph 0085 of Oguchi)" fails to provide motivation as to the alleged use of Layer-3 marking, where the Examiner alleges teaching as to "packets are marked with differentiated services code point (DSCP) value." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 1.

Moreover, as Appellant argues above, Appellant submits the Examiner's alleged motivation is not looking only at the problem Appellant was trying to solve, which Appellant argues is inconsistent with *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007). Appellant submits a person of ordinary skill in the art at the time of the invention would only be led to prior art elements attempting to solve the same problem, which Appellant submits is not the case with the cited references. Accordingly, Appellant submits there would have been no reasonable expectation of success for one of ordinary skill in the art at the time of the invention in view of the alleged teachings of the cited references. Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 1.

For the foregoing reasons, Appellant submits the Examiner erred in rejecting claim 1. Thus, Appellant submits claim 1 is in condition for allowance.

**Claim 2:**

Regarding claim 2, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claim 2. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "...wherein the step of marking further comprises: marking the packets using a unique protocol identifier." While the Examiner cites "(paragraph 0037 and 0042, wherein packets are marked with a three bit differentiated services code point (DSCP) value (e.g., 000, 010, and 101)," Appellant submits the Examiner does not explain how the Examiner considers "a three bit differentiated services code point (DSCP) value (e.g., 000, 010, and 101)" to be "a unique protocol identifier." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 2. Therefore, Appellant submits claim 2 is in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 2 and 21, the Examiner states as follows:

Regarding Claims 2 and 21, Applicant states "Examiner does not explain how the Examiner considers "a three bit differentiated services code point value ... to be a "unique protocol identifier." Examiner respectfully disagrees. Examiner notes that the DSCP value disclosed in McDysan uniquely identifies how the packet is to be treated (e.g., binary value of 000 indicating the packet is to be treated as best-effort in paragraph 0042).

Appellant notes paragraph [0042] states, in relevant part, "...DSCP 000, thus identifying the packets as best-effort traffic." Thus, Appellant submits the "DSCP 000" does not disclose or suggest a "unique protocol identifier." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 2 and 21. Therefore, Appellant submits claims 2 and 21 are in condition for allowance.

**Claim 4:**

Regarding claim 4, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claim 4. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "applying interface groups to determine when marking of control packets is to be done." While the Examiner cites "(Figure 5 and paragraph 0036, wherein the classifier in the LAN port determines by reference to a classifier table indexed by multiple indices, such as source port and destination port, to determine an interface for communication and to send values to a packet marker)," Appellant submits the alleged teaching of "to send values to a packet marker" does not teach or suggest "...to determine when marking of control packets is to be done." Appellant submits the cited portions of the cited reference do not disclose or suggest "...to determine when marking of control packets is to be done." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 4. Therefore, Appellant submits claim 4 is in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 4 and 23, the Examiner states as follows:

Regarding Claims 4 and 23, Applicant states "the alleged teaching of "to send values to a packet marker" does not teach or suggest "...to determine when marking of control packets is to be done." Examiner respectfully disagrees. Examiner notes that Applicant has not specifically pointed out how the language of the claims patentably distinguishes them from the references. McDysan, at Figure 5 and paragraph 0036, discloses a classifier in the LAN port determining, via by reference to a classifier table indexed by multiple indices (e.g., source port and destination port), to determine an interface for communication and to send values to a packet marker. Further, at paragraphs 0037 and 0042, a determination is made with regard to marking of a packet (e.g., marking a packet when received from an access network).

Appellant submits none of the portions of the cited references appear to teach or suggest "to determine when marking of control packets is to be done." Rather,

Appellant submits "...classifier 124 of LP-2 110b directs all packets to marker M0 in accordance with classifier table 126" and "Marker M0 remarks all packets received at LP-2 110b with DSCP 000, thus identifying the packets as best-effort traffic" of paragraph [0042] teach away from "determine when marking of control packets is to be done," as they teach remarking of all received packets indiscriminately. Also, Appellant notes the Examiner alleges teaching only as to "...marking of a packet...," not "...marking of control packets...." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 4 and 23. Therefore, Appellant submits claims 4 and 23 are in condition for allowance.

**Claim 17:**

Regarding claim 17, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claim 17. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of encapsulating the packets further comprises: encapsulating the packets according to control encapsulation." While the Examiner cites "(paragraph 0215, Figure 25, wherein a packet containing an IP header)" in the Oguchi reference, Appellant submits the cited portions of the cited reference do not appear to disclose, as an example, "...according to control encapsulation." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 17. Therefore, Appellant submits claim 17 is in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 17 and 36, the Examiner states as follows:

Regarding Claims 17 and 36, Applicant states "the cited portions of the cited reference do not appear to disclose, as an example, according to control encapsulation." Examiner respectfully disagrees. Examiner notes that Applicant has not specifically pointed out how the language of the claims patentably distinguishes them from the references.

Further, Examiner notes that the claimed "control encapsulation" is not further defined in the claim language so as to require a certain format for the encapsulation. As such, Examiner gives the claim language its broadest reasonable interpretation without unnecessarily importing limitations from the specification. Oguchi discloses encapsulating an L2TP VPN packet (i.e., performing control encapsulation) comprising Layer 3 encapsulation (paragraph 0215, Figure 25, wherein a packet containing an IP header).

While the Examiner states "'control encapsulation' is not further defined in the claim language so as to require a certain format for the encapsulation," Appellant submits the Examiner has not offered any explanation as to how "encapsulating an L2TP VPN packet" discloses or suggests "control encapsulation." Rather, the Examiner parenthetically states, "(i.e., performing control encapsulation)" without any explanation or justification. Moreover, Appellant submits paragraph [0215], as cited by the Examiner, merely states "It is to be noted that the present embodiment has dealt with the case where the L2TP tunneling is used as a tunneling technique" and "The format of the encapsulated packet transmitted through the L2TP tunnel in such case is the same as that shown in FIG. 25." Appellant submits such teaching fails to disclose or suggest "control encapsulation." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 17 and 36. Therefore, Appellant submits claims 17 and 36 are in condition for allowance.

**Claim 20:**

Regarding claim 20, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claim 20. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "marking packets carrying the Layer-3 control information." While the Examiner states, "McDysan discloses apparatus comprising a network element (Figure 5, CPE edge router 34 comprising LAN physical ports (60a-60n) and WAN physical ports 64a-64n that further comprise packet classifiers 80 (LAN) and 100 (WAN)) that marks packets carrying

Layer-3 control information (paragraphs 0037 and 0042, wherein packets are marked with a differentiated services code point (DSCP) value)," Appellant submits none of the cited portions of the cited references appear to teach or suggest, for example, "Layer-3 control information." Moreover, Appellant submits the Examiner's allegation of "which is known in the art as an implementation of 'Layer-3' in the OSI 7-layer Interconnect Model (i.e., the network layer)" does not appear to allege teaching as to, for example, "Layer-3 control information." Moreover, it isn't clear what noun or noun phrase the Examiner is using the word "which" to refer back to in alleging "which is known in the art as an implementation of 'Layer-3' in the OSI 7-layer Interconnect Model (i.e., the network layer)." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 20.

Also, Appellant notes paragraph [0042] of the McDysan (US 2003/0112755 A1) reference states, in part, "Marker M0 remarks all packets received at LP-2 110b with DSCP 0000, thus identifying the packets as best-effort traffic." Appellant submits "Marker M0 remarks all packets received..." fails to disclose or suggest, and teaches away from, "marking packets carrying the Layer-3 control information." Therefore, Appellant submits claim 20 is in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 1 and 20, the Examiner states as follows:

Regarding Claims 1 and 20, Applicant states "none of the cited portions of the cited references appear to teach or suggest, for example, "Layer-3 control information." Examiner respectfully disagrees. Examiner notes that Applicant has not specifically pointed out how the language of the claims patentably distinguishes them from the references. Examiner turns to Applicant's specification at paragraph 0004, which defines the OSI 7-layer model. More specifically, the network layer is defined as Layer-3. Examiner further turns to The OSI Reference Model, which was provided to Applicant with the Office Action mailed June 5, 2009, wherein Layer-3 (i.e., the Network Layer) corresponds to the Internet Protocol (IP). Turning to the McDysan reference, paragraph 0009 recites: "DiffSery is an IP QoS architecture that achieves scalability by conveying an aggregate traffic classification within a DS field (e.g., the IPv4 Type of Service (TOS) byte or IPv6 traffic class byte) of each IP-layer packet

header. The first six bits of the DS field encode a DiffSery Code Point (DSCP) that requests a specific class of service or Per Hop Behavior (PHB) for the packet at each node along its path within a DiffSery domain..” Examiner further notes that the claimed “control information” is not further defined in the claim language so as to require a structure or feature of said information other than being “Layer-3 control information.” As the DSCP disclosed in McDysan controls the QoS applied to a packet (e.g., in paragraphs 0037 and 0042) and further is indicative of an IP QoS (i.e., Layer-3), Examiner submits that the claim limitation “Layer-3 control information” is met by the disclosure of McDysan. Applicant further states paragraph 0042 of McDysan “fails to disclose or suggest, and teaches away from “marking packets carrying the Layer-3 control information.”

Examiner respectfully disagrees. Examiner notes that while alleging that the disclosure of McDysan teaches away from marking packets, Applicant has not specifically pointed out how the disclosure teaches away or how the language of the claims patentably distinguishes them from the references. As described above, McDysan discloses marking packets via a DSCP code point in IP packets, and therefore meets the claim limitation “marking packets carrying the Layer-3 control information.”

Appellant notes the Examiner alleges “...McDysan discloses marking packets via a DSCP code point in IP packets, and therefore meets the claim limitation ‘marking packets carrying the Layer-3 control information.’” However, Appellant notes the Examiner also alleges, “As the DSCP disclosed in McDysan controls the QoS applied to a packet (e.g., in paragraphs 0037 and 0042) and further is indicative of an IP QoS (i.e., Layer-3), Examiner submits that the claims limitation “Layer-3 control information” is met by the disclosure of McDysan.” However, if the Examiner is alleging that “the DSCP disclosed in McDysan” is the basis for the Examiner’s contention “that the claims limitation ‘Layer-3 control information’ is met by the disclosure of McDysan,” then Appellant submits the Examiner has not shown any portion of the cited references to disclose or suggest “...marking packets carrying the Layer-3 control information.” However, if the Examiner is alleging that “...McDysan discloses marking packets via a DSCP code point in IP packets...,” then Appellant submits the Examiner has not shown any portion of the cited references to disclose or suggest “...packets carrying the Layer-3 control information.” Thus, Appellant submits the Examiner has not shown any portion of the cited references to disclose or suggest, for example, “...marking packets carrying the Layer-3 control information.”

As another example, Appellant submits the Examiner has not alleged teaching as to "...encapsulating the packets at Layer-2 to uniquely identify Layer-2 frames as carrying trusted control information." While the Examiner cites "(paragraph 0215, Figure 25, wherein a packet containing L2TP is encapsulated with a PPP or Ethernet header)" and alleges teaching as to "...an implementation of 'Layer 2' of the OSI 7-layer Interconnect Model (i.e., the data link layer)," Appellant submits the Examiner does not allege teaching of "...to uniquely identify Layer-2 frames as carrying trusted control information." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to the subject matter of claims 1 or 20. Therefore, Appellant submits claims 1 and 20 are in condition for allowance.

**Claim 21:**

Regarding claim 21, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claim 21. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of marking further comprises: marking the packets using a unique protocol identifier." While the Examiner cites "(paragraph 0037 and 0042, wherein packets are marked with a three bit differentiated services code point (DSCP) value (e.g., 000, 010, and 101)," Appellant submits the Examiner does not explain how the Examiner considers "a three bit differentiated services code point (DSCP) value (e.g., 000, 010, and 101)" to be "a unique protocol identifier." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 21. Therefore, Appellant submits claim 21 is in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 2 and 21, the Examiner states as follows:

Regarding Claims 2 and 21, Applicant states "Examiner does not explain how the Examiner considers "a three bit differentiated services code point value ... to be a "unique protocol identifier." Examiner respectfully disagrees. Examiner notes that the DSCP value disclosed in McDysan uniquely identifies how the packet is to be treated (e.g., binary value of 000 indicating the packet is to be treated as best-effort in paragraph 0042).

Appellant notes paragraph [0042] states, in relevant part, "...DSCP 000, thus identifying the packets as best-effort traffic." Thus, Appellant submits the "DSCP 000" does not disclose or suggest a "unique protocol identifier." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 2 and 21. Therefore, Appellant submits claims 2 and 21 are in condition for allowance.

**Claim 23:**

Regarding claim 23, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claim 23. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "...wherein the network element is further adapted to perform the step of: applying interface groups to determine when marking of control packets is to be done." While the Examiner cites "(Figure 5 and paragraph 0036, wherein the classifier in the LAN port determines by reference to a classifier table indexed by multiple indices, such as source port and destination port, to determine an interface for communication and to send values to a packet marker)," Appellant submits the alleged teaching of "to send values to a packet marker" does not teach or suggest "...to determine when marking of control packets is to be done." Appellant submits the cited portions of the cited reference do not disclose or suggest "...to determine when marking of control packets is to be done." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 23. Therefore, Appellant submits claim 23 is in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 4 and 23, the Examiner states as follows:

Regarding Claims 4 and 23, Applicant states "the alleged teaching of "to send values to a packet marker" does not teach or suggest "...to determine when marking of control packets is to be done." Examiner respectfully disagrees. Examiner notes that Applicant has not specifically pointed out how the language of the claims patentably distinguishes them from the references. McDysan, at Figure 5 and paragraph 0036, discloses a classifier in the LAN port determining, via by reference to a classifier table indexed by multiple indices (e.g., source port and destination port), to determine an interface for communication and to send values to a packet marker. Further, at paragraphs 0037 and 0042, a determination is made with regard to marking of a packet (e.g., marking a packet when received from an access network).

Appellant submits none of the portions of the cited references appear to teach or suggest "to determine when marking of control packets is to be done." Rather, Appellant submits "...classifier 124 of LP-2 110b directs all packets to marker M0 in accordance with classifier table 126" and "Marker M0 remarks all packets received at LP-2 110b with DSCP 000, thus identifying the packets as best-effort traffic" of paragraph [0042] teach away from "determine when marking of control packets is to be done," as they teach remarking of all received packets indiscriminately. Also, Appellant notes the Examiner alleges teaching only as to "...marking of a packet...," not "...marking of control packets...." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 4 and 23. Therefore, Appellant submits claims 4 and 23 are in condition for allowance.

### **Claim 36:**

Regarding claim 36, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claim 36. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein network element is further adapted to encapsulate the packets according to control encapsulation." While the Examiner cites "(paragraph 0215, Figure 25, wherein a

packet containing an IP header)" in the Oguchi reference, Appellant submits the cited portions of the cited reference do not appear to disclose, as an example, "...according to control encapsulation." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 36. Therefore, Appellant submits claim 36 is in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 17 and 36, the Examiner states as follows:

Regarding Claims 17 and 36, Applicant states "the cited portions of the cited reference do not appear to disclose, as an example, according to control encapsulation." Examiner respectfully disagrees. Examiner notes that Applicant has not specifically pointed out how the language of the claims patentably distinguishes them from the references. Further, Examiner notes that the claimed "control encapsulation" is not further defined in the claim language so as to require a certain format for the encapsulation. As such, Examiner gives the claim language its broadest reasonable interpretation without unnecessarily importing limitations from the specification. Oguchi discloses encapsulating an L2TP VPN packet (i.e., performing control encapsulation) comprising Layer 3 encapsulation (paragraph 0215, Figure 25, wherein a packet containing an IP header).

While the Examiner states "'control encapsulation' is not further defined in the claim language so as to require a certain format for the encapsulation," Appellant submits the Examiner has not offered any explanation as to how "encapsulating an L2TP VPN packet" discloses or suggests "control encapsulation." Rather, the Examiner parenthetically states, "(i.e., performing control encapsulation)" without any explanation or justification. Moreover, Appellant submits paragraph [0215], as cited by the Examiner, merely states "It is to be noted that the present embodiment has dealt with the case where the L2TP tunneling is used as a tunneling technique" and "The format of the encapsulated packet transmitted through the L2TP tunnel in such case is the same as that shown in FIG. 25." Appellant submits such teaching fails to disclose or suggest "control encapsulation." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 17 and 36. Therefore, Appellant submits claims 17 and 36 are in condition for allowance.

**The Second Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 3 and 22 under 35 U.S.C. 103(a) as being unpatentable over McDysan (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 1 and 20 above, and further in view of Nakamichi et al (U.S. Patent Application Publication US 2002/0085498 A1). Appellant respectfully disagrees.

**Claims 3 and 22:**

Regarding claims 3 and 22, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claims 3 and 22. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "...wherein the step of marking further comprises: marking the packets using a link-local MPLS label." While the Examiner states, "It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the link state advertisement disclosed in Nakamichi with the marker/policer disclosed in McDysan, as modified above, in order to allow a node in a communications network to collect traffic information and perform load sharing depending on traffic conditions," Appellant submits "to allow a node in a communications network to collect traffic information and perform load sharing depending on traffic conditions," Appellant submits such rationale would not have motivated one of ordinary skill in the art to combine the alleged teachings of the cited portions of the cited references so as to purportedly yield the subject matter of claims 3 and 22. Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 3 and 22. Therefore, Appellant submits claims 3 and 22 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 3 and 22, the Examiner states as follows:

Regarding Claims 3 and 22, Applicant states ""to allow a node in a communications network to collect traffic information and perform load sharing depending on traffic conditions"...would not have motivated one of ordinary skill in the art to combine the alleged teachings of the cited portions of the cited references." Examiner respectfully disagrees. Examiner submits recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347,21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, Nakamichi discloses, at paragraph 0012, a need to allow a node in a communication network to collect traffic information to thereby achieve load sharing depending on the conditions of the traffic. Therefore, Examiner notes that the references themselves provide a motivation to combine the disclosed teachings.

Appellant submits the Examiner has not shown how an alleged motivation of "a need to allow a node in a communication network to collect traffic information to thereby achieve load sharing depending on the conditions of the traffic" would have motivated one of ordinary skill in the art to combine the teachings of Nakamichi, directed to a device and method for collecting traffic information, with the teachings of McDysan, directed to a VPN-aware CPE edge router, and the teachings of Oguchi, directed to the establishment of virtual links between all of the relaying apparatuses belonging to a multicast address group, to allegedly yield marking packets carrying Layer-3 control information using a link-local MPLS label and encapsulating the packets at Layer-2 to uniquely identify Layer-2 frames as carrying trusted control information. Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 3 and 22. Therefore, Appellant submits claims 3 and 22 are in condition for allowance.

### **The Third Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 5-12 and 24-31 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US

2002/0067725 A1) as applied to claims 4 and 23 above, and further in view of Yu et al. (United States Patent Application Publication US 2004/0010583 A1). Appellant respectfully disagrees.

**Claims 5 and 24:**

Regarding claims 5 and 24, Appellant submits the cited portions of the cited reference fail to render obvious the subject matter of claims 5 and 24. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups further comprises the step of: applying interface groups to packet communications within a particular interface group." While the Examiner cites "(Figure 1, interface group defined between interfaces 'a' and 'd' within network device A)," Appellant submits the block diagram of Figure 1 of the Yu et al. reference does not disclose, as an example, "...the step of: applying interface groups...." As another example, Appellant submits the block diagram of Figure 1 of the Yu et al. reference does not disclose "applying interface groups to packet communications within a particular interface group." Contrary to the Examiner's assertion, Appellant submits "Figure 1" does not appear to disclose "interface group defined between interfaces 'a' and 'd' within network device A." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 5 and 24. Therefore, Appellant submits claims 5 and 24 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 5 and 24, the Examiner states as follows:

Regarding Claims 5 and 24, Applicant states that "Figure 1" does not appear to disclose "interface group defined between interfaces 'a' and 'd' within network device A." Examiner respectfully disagrees. Claims 5 and 24 require "applying interface groups to packet communications within a particular interface group." However, Examiner notes that the claim language is not further defined so as to further limit the step of applying

interface groups or the features of a particular interface group. Per MPEP 2106: "USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See also In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320,1322 (Fed. Cir. 1989)." Examiner has given said claim language its broadest reasonable interpretation in view of the specification to comprise determination of an interface for communications. Accordingly, Yu discloses assigning interfaces to communicate within and between various types of networks (see Figures 1 and 4 and paragraphs 0022 and 0025). Further regarding Claims 5 and 24, Yu discloses packet communications between interfaces 'a' and 'd' of Network Device A in Figure 1 (at paragraph 0034, wherein tunnel interface 'd' is assigned to physical interface 'a' within an interface group).

Appellant notes the Examiner does not appear to allege "applying interface groups..." Rather, Appellant notes the Examiner alleges, "Yu discloses assigning interfaces to communicate within and between various types of networks." Moreover, while paragraph [0034] of Yu states, "...define an interface group...," Appellant submits paragraph [0034] teaches doing so to "cause network device A to instruct network device B to assume mastership of the virtual IP address associated with the private physical interface 'a' of network device A, which will, in turn, cause network device B to assume mastership for that interface." Appellant submits the cited portion of the Yu reference does not teach or suggest "applying interface groups to determine when marking of control packets is to be done," comprising "applying interface groups to packet communications within a particular interface group," as Appellant submits instructing devices to assume mastership of a virtual IP address teaches away from "applying interface groups to determine when marking of control packets is to be done." Moreover, Appellant submits the Examiner has not shown how an alleged motivation of "to withstand failures of network device components, without triggering unnecessary failover in a network device" would have motivated one of ordinary skill in the art to combine the teachings of Yu, directed to a method and apparatus for defining failover

events in a network device, with the teachings of McDysan, directed to a VPN-aware CPE edge router, and the teachings of Oguchi, directed to the establishment of virtual links between all of the relaying apparatuses belonging to a multicast address group, to allegedly yield applying interface groups to packet communications within a particular interface group to determine when marking of control packets is to be done, marking packets carrying Layer-3 control information, and encapsulating the packets at Layer-2 to uniquely identify Layer-2 frames as carrying trusted control information.

Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 5 and 24. Therefore, Appellant submits claims 5 and 24 are in condition for allowance.

**Claims 6 and 25:**

Regarding claims 6 and 25, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claims 6 and 25. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of: applying interface groups to packet communications within a backbone interface group." While the Examiner cites "(Figure 4, static tunnel through Internet between network device A and network device B)," Appellant submits the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest, as an example, "...the step of: applying interface groups to packet communications within a backbone interface group." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 6 and 25. Therefore, Appellant submits claims 6 and 25 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 6 and 25, the Examiner states as follows:

Regarding Claims 6 and 25, Applicant states that "the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest, as an example, "...the step of applying interface groups to packet communications within a backbone interface group." Examiner respectfully disagrees. Figure 4 of Yu discloses setting up a static tunnel (i.e., "Static Tunnel A") across the Internet (i.e., backbone) between two network devices. Given its broadest reasonable interpretation, the claimed "backbone interface group" limitation is met by interface 'd', which connects Network Device A. to the tunnel over the Internet.

Appellant notes the Examiner parenthetically characterizes "the Internet" as teaching "(i.e., backbone)," without citing any reference or providing any justification or explanation as to such characterization. Moreover, Appellant submits Figure 4 of Yu, as cited by the Examiner, does not appear to disclose "applying interface groups...." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 6 and 25. Therefore, Appellant submits claims 6 and 25 are in condition for allowance.

### **Claims 7 and 26:**

Regarding claims 7 and 26, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claims 7 and 26. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of: applying interface groups to packet communications within a customer-specific interface group." While the Examiner cites "(Figure 4, interface 'a' between network device A and Host PC)," Appellant submits the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest "...the step of: applying interface groups to packet communications within a customer-specific interface group." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 7 and 26. Therefore, Appellant submits claims 7 and 26 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 7 and 26, the Examiner states as follows:

Regarding Claims 7 and 26, Applicant states that "the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest, as an example, "...the step of: applying interface groups to packet communications within a customer-specific interface group." Examiner respectfully disagrees. Yu discloses communications with assigning interface 'a' to interconnect with a Host PC (i.e., customer-specific interface group given its broadest reasonable interpretation) in Figure 4.

Appellant submits Figure 4 of Yu, as cited by the Examiner, does not appear to disclose "applying interface groups...." Moreover, Appellant submits the Examiner does not appear to allege teaching as to "applying interface groups to packet communications within a customer-specific interface group." Rather, the Examiner alleges, "Yu discloses...assigning interface 'a' to interconnect with a Host PC." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 7 and 26. Therefore, Appellant submits claims 7 and 26 are in condition for allowance.

**Claim 8 and 27:**

Regarding claims 8 and 27, Appellant submits the cited portions of the cited references do not render obvious the subject matter of claims 8 and 27. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of: applying interface groups to packet communications within a peer interface group." While the Examiner cites "(Figure 4, static tunnel between network device A and network device D)," Appellant submits the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest "...the step of: applying interface groups to packet communications within a peer interface group." Thus, Appellant submits the Examiner has not made a *prima*

*facie* showing of obviousness with respect to claims 8 and 27. Therefore, Appellant submits claims 8 and 27 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 8 and 27, the Examiner states as follows:

Regarding Claims 8 and 27, Applicant states that "the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest, as an example, "...the step of: applying interface groups to packet communications within a peer interface group." Yu discloses communications via a static tunnel between Network Device A and Network Device D (i.e., peer devices given its broadest reasonable interpretation) via interface 'a' on Network Device A (see Figure 4). Given its broadest reasonable interpretation, the claimed "peer interface group" limitation is met by the disclosed interface assignment (i.e., interface 'd') used in order to communicate between like devices (i.e., Network Device A and Network Device D).

Appellant submits Figure 4 of the Yu reference does not disclose or suggest "communications via a static tunnel between Network Device A and Network Device D (i.e., peer devices given its broadest reasonable interpretation) via interface 'a' on Network Device A (see Figure 4)," as alleged by the Examiner. Moreover, Appellant submits Figure 4 of the Yu reference does not disclose or suggest "(i.e., interface 'd') used in order to communicate between like devices (i.e., Network Device A and Network Device D)." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 8 and 27. Therefore, Appellant submits claims 8 and 27 are in condition for allowance.

### **Claim 9 and 28:**

Regarding claims 9 and 28, Appellant submits the cited portions of the cited references do not render obvious the subject matter of claims 9 and 28. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups further comprises the step of: applying interface groups to packet communications between interface groups." While the

Examiner cites "(Figure 4, connections between peer, backbone, and customer networks at network device A)," Appellant submits the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest "...the step of: applying interface groups to packet communications between interface groups." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 9 and 28. Therefore, Appellant submits claims 9 and 28 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 9 and 28, the Examiner states as follows:

Regarding Claims 9 and 28, Applicant states that "the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest, as an example, "...the step of: applying interface groups to packet communications between interface groups." Examiner respectfully disagrees.

As stated above, Examiner has given the claim language "applying interface groups" its broadest reasonable interpretation in view of the specification to comprise determination of an interface for communications. Yu discloses applying interface groups to packet communications between interface groups (Figure 4, connections between peer (e.g., between Network Device A and Network Device D), backbone (e.g., in Network Device A between interfaces 'a' and 'd', and customer networks (e.g., between Network Device A at interface 'a' and Host PC 12).

Appellant submits paragraph [0034] of the Yu reference appears to teach away from the Examiner's assertion that "Examiner has given the claim language 'applying interface groups' its broadest reasonable interpretation in view of the specification to comprise determination of an interface for communications." Appellant submits Yu's usage of "...define an interface group..." in paragraph [0034] is narrower than the Examiner's alleged "broadest reasonable interpretation." Thus, Appellant submits one of ordinary skill in the art at the time the invention was made, in view of the Yu reference, would not have understood "...define an interface group..." to merely mean "determination of an interface for communications," as alleged by the Examiner. Moreover, Appellant submits Figure 4 of the Yu reference, as cited by the Examiner, does not disclose or suggest "applying interface groups to packet communications

between interface groups." Furthermore, Appellant submits paragraph [0034] of the Yu reference does not disclose or suggest "applying interface groups to packet communications between interface groups (Figure 4, connections between peer (e.g., between Network Device A and Network Device D), backbone (e.g., in Network Device A between interfaces 'a' and 'd', and customer networks (e.g., between Network Device A at interface 'a' and Host PC 12)." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 9 and 28. Therefore, Appellant submits claims 9 and 28 are in condition for allowance.

**Claim 10 and 29:**

Regarding claims 10 and 29, Appellant submits the cited portions of the cited references do not render obvious the subject matter of claims 10 and 29. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups to packet communications between interface groups further comprises the step of: applying interface groups to packet communications between backbone and customer-specific interface groups." While the Examiner cites "(Figure 4, connections between peer, backbone, and customer networks at network device A)," Appellant submits the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest "...the step of: applying interface groups to packet communications between backbone and customer-specific interface groups." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 10 and 29. Therefore, Appellant submits claims 10 and 29 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 10 and 29, the Examiner states as follows:

Regarding Claims 10 and 29, Applicant states that "the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest, as an example, "...the step of: applying interface groups to packet communications between backbone and customer-specific interface groups." Examiner respectfully disagrees. Yu further discloses applying interface groups to packet communications between backbone and customer-specific groups (Figure 4, connections between backbone (e.g., in Network Device A between interfaces 'a' and 'd' and customer networks (e.g., between Network Device A at interface 'a' and Host PC 12).

Appellant submits Figure 4 of the Yu reference does not disclose or suggest "applying interface groups to packet communications between backbone and customer-specific groups (Figure 4, connections between backbone (e.g., in Network Device A between interfaces 'a' and 'd' and customer networks (e.g., between Network Device A at interface 'a' and Host PC 12)." Appellant notes paragraph [0034] of the Yu reference recites "...define an interface group containing the tunnel interface 'd.'" However, Appellant submits Yu teaches away from "applying interface groups" to "connections between backbone (e.g., in Network Device A between interfaces 'a' and 'd' and customer networks (e.g., between Network Device A at interface 'a' and Host PC 12)," as Appellant submits such an alleged "applying interface groups" would appear to render inoperable the "tunnel fail over...without running a dynamic routing protocol" described in paragraph [0034] of the Yu reference. Accordingly, Appellant submits the Examiner fails to present a plausible rationale presented as to how the cited references could allegedly work together.

Appellant notes, even after *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007), the Court of Appeals for the Federal Circuit has found inoperability to support a finding of non-obviousness. For example, in *DePuy Spine, Inc. v. Medtronic Sofamor Danek*, (Fed. Cir. June 1, 2009), the Court stated, "The 'predictable result' discussed in *KSR* refers not only to the expectation that prior art elements are capable of being physically combined, but also that the combination would have worked for its intended purpose," (citing *KSR*, at 1739-40) and "A reference teaches away from a combination when using it in that combination would produce an

inoperative result," (citing *In re ICON Health Fitness* (Fed. Cir. 2007). Furthermore, in *Power-One v. Artesyn* (Fed. Cir. March 30, 2010), the Court stated, "[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements is, independently, known in the prior art." The Court could find no plausible rationale presented as to how the references could allegedly work together. Appellant submits the Board of Patent Appeals and Interferences continues to find inoperability to be persuasive of non-obviousness in a post-*KSR* context, for example, where the Board stated, "We are persuaded by the above arguments and agree with the Appellants that one of ordinary skill would not combine Forni and Heinz in the manner suggested by the Examiner because such a combination will result in an inoperable spring pad." *In re Thomas*, Appeal 2008-0173 (April 17, 2008). Thus, Appellant submits the apparent inoperability of the purported modification of the alleged teachings of the Mann reference must be understood in the context of case law and Office practice that recognizes that evidence of "inoperability" of the purported combination of the cited prior art references undermines such an allegation of obviousness. As Appellant alleges such "inoperability" as to the Examiner's purported combination, Appellant submits the Examiner's rejection of claims 10 and 29 is improper.

Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 10 and 29. Therefore, Appellant submits claims 10 and 29 are in condition for allowance.

### **Claim 11 and 30:**

Regarding claims 11 and 30, Appellant submits the cited portions of the cited references do not render obvious the subject matter of claims 11 and 30. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups to packet communications

between interface groups further comprises the step of: applying interface groups to packet communications between customer-specific and peer interface groups." While the Examiner cites "(Figure 4, connections between peer, backbone, and customer networks at network device A)," Appellant submits the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest "...the step of: applying interface groups to packet communications between customer-specific and peer interface groups." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 11 and 30. Therefore, Appellant submits claims 11 and 30 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 11 and 30, the Examiner states as follows:

Regarding Claims 11 and 30, Applicant states that "the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest, as an example, "...the step of. applying interface groups to packet communications between customer-specific and peer interface groups." Examiner respectfully disagrees. Yu discloses applying interface groups to packet communications between customer-specific and peer interface groups (Figure 4, connections between peer (e.g., between Network Device A and Network Device D) and customer networks (e.g., between Network Device A at interface 'a' and Host PC 12).

Appellant submits Figure 4 of the Yu reference does not disclose or suggest "applying interface groups to packet communications between customer-specific and peer interface groups (Figure 4, connections between peer (e.g., between Network Device A and Network Device D) and customer networks (e.g., between Network Device A at interface 'a' and Host PC 12)." Appellant notes paragraph [0034] of the Yu reference recites "...define an interface group containing the tunnel interface 'd.'" However, Appellant submits Yu teaches away from "applying interface groups" to "connections between peer (e.g., between Network Device A and Network Device D) and customer networks (e.g., between Network Device A at interface 'a' and Host PC 12)," as Appellant submits such an alleged "applying interface groups" would appear to render inoperable the "tunnel fail over...without running a dynamic routing protocol"

described in paragraph [0034] of the Yu reference. Accordingly, Appellant submits the Examiner fails to present a plausible rationale presented as to how the cited references could allegedly work together.

Appellant notes, even after *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007), the Court of Appeals for the Federal Circuit has found inoperability to support a finding of non-obviousness. For example, in *DePuy Spine, Inc. v. Medtronic Sofamor Danek*, (Fed. Cir. June 1, 2009), the Court stated, "The 'predictable result' discussed in *KSR* refers not only to the expectation that prior art elements are capable of being physically combined, but also that the combination would have worked for its intended purpose," (citing *KSR*, at 1739-40) and "A reference teaches away from a combination when using it in that combination would produce an inoperative result," (citing *In re ICON Health Fitness* (Fed. Cir. 2007)). Furthermore, in *Power-One v. Artesyn* (Fed. Cir. March 30, 2010), the Court stated, "[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements is, independently, known in the prior art." The Court could find no plausible rationale presented as to how the references could allegedly work together. Appellant submits the Board of Patent Appeals and Interferences continues to find inoperability to be persuasive of non-obviousness in a post-*KSR* context, for example, where the Board stated, "We are persuaded by the above arguments and agree with the Appellants that one of ordinary skill would not combine Forni and Heinz in the manner suggested by the Examiner because such a combination will result in an inoperable spring pad." *In re Thomas*, Appeal 2008-0173 (April 17, 2008). Thus, Appellant submits the apparent inoperability of the purported modification of the alleged teachings of the Mann reference must be understood in the context of case law and Office practice that recognizes that evidence of "inoperability" of the purported combination of the cited prior art references undermines such an allegation of obviousness. As Appellant

alleges such "inoperability" as to the Examiner's purported combination, Appellant submits the Examiner's rejection of claims 11 and 30 is improper.

Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 11 and 30. Therefore, Appellant submits claims 11 and 30 are in condition for allowance.

**Claim 12 and 31:**

Regarding claims 12 and 31, Appellant submits the cited portions of the cited references do not render obvious the subject matter of claims 12 and 31. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups to packet communications between interface groups further comprises the step of: applying interface groups to packet communications between backbone and peer interface groups." While the Examiner cites "(Figure 4, connections between peer, backbone, and customer networks at network device A)," Appellant submits the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest "...the step of: applying interface groups to packet communications between backbone and peer interface groups." Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 12 and 31. Therefore, Appellant submits claims 12 and 31 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 12 and 31, the Examiner states as follows:

Regarding Claims 12 and 31, Applicant states that "the block diagram of Figure 4 of the Yu et al. reference does not disclose or suggest, as an example, "...the step of: applying interface groups to packet communications between backbone and peer interface groups." Examiner respectfully disagrees. Yu discloses applying interface groups to packet communications between interface groups (Figure 4, connections between peer

(e.g., between Network Device A and Network Device D) and backbone (e.g., in Network Device A between interfaces 'a' and 'd').

Appellant notes, in the Examiner's Response to Arguments with respect to claims 6 and 25, the Examiner parenthetically characterizes "the Internet" as teaching "(i.e., backbone)," without citing any reference or providing any justification or explanation as to such characterization. Now, with respect to claims 12 and 31, Appellant notes the Examiner parenthetically characterizes "(e.g., in Network Device A between interfaces 'a' and 'd')" as teaching a "backbone." Thus, Appellant submits the Examiner's assertions are inconsistent and contradictory. Appellant submits Figure 4 of the Yu reference does not disclose or suggest "applying interface groups to packet communications between backbone and peer interface groups." Appellant notes paragraph [0034] of the Yu reference recites "...define an interface group containing the tunnel interface 'd.'" However, Appellant submits Yu teaches away from "applying interface groups" to "connections between peer (e.g., between Network Device A and Network Device D) and backbone (e.g., in Network Device A between interfaces 'a' and 'd')," as Appellant submits such an alleged "applying interface groups" would appear to render inoperable the "tunnel fail over...without running a dynamic routing protocol" described in paragraph [0034] of the Yu reference. Accordingly, Appellant submits the Examiner fails to present a plausible rationale presented as to how the cited references could allegedly work together.

Appellant notes, even after *KSR International Co. v. Teleflex, Inc.*, 550 U.S 398, 82 USPQ2d 1385 (2007), the Court of Appeals for the Federal Circuit has found inoperability to support a finding of non-obviousness. For example, in *DePuy Spine, Inc. v. Medtronic Sofamor Danek*, (Fed. Cir. June 1, 2009), the Court stated, "The 'predictable result' discussed in *KSR* refers not only to the expectation that prior art elements are capable of being physically combined, but also that the combination would have worked for its intended purpose," (citing *KSR*, at 1739-40) and "A reference

teaches away from a combination when using it in that combination would produce an inoperative result," (citing *In re ICON Health Fitness* (Fed. Cir. 2007). Furthermore, in *Power-One v. Artesyn* (Fed. Cir. March 30, 2010), the Court stated, "[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements is, independently, known in the prior art." The Court could find no plausible rationale presented as to how the references could allegedly work together. Appellant submits the Board of Patent Appeals and Interferences continues to find inoperability to be persuasive of non-obviousness in a post-KSR context, for example, where the Board stated, "We are persuaded by the above arguments and agree with the Appellants that one of ordinary skill would not combine Forni and Heinz in the manner suggested by the Examiner because such a combination will result in an inoperable spring pad." *In re Thomas*, Appeal 2008-0173 (April 17, 2008). Thus, Appellant submits the apparent inoperability of the purported modification of the alleged teachings of the Mann reference must be understood in the context of case law and Office practice that recognizes that evidence of "inoperability" of the purported combination of the cited prior art references undermines such an allegation of obviousness. As Appellant alleges such "inoperability" as to the Examiner's purported combination, Appellant submits the Examiner's rejection of claims 12 and 31 is improper.

Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 12 and 31. Therefore, Appellant submits claims 12 and 31 are in condition for allowance.

**The Fourth Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 13 and 32 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US

2002/0067725 A1) as applied to claims 4 and 23 above, and further in view of Holden et al. (United States Patent No. 5,802,178). Appellant respectfully disagrees.

**Claim 13 and 32:**

Regarding claims 13 and 32, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claims 13 and 32. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups further comprises the step of: applying interface groups to communication of ICMP packets." While the Examiner cites "(column 20, line 66 – column 21, line 10)," Appellant submits the cited portion of the Holden et al. reference does not disclose or suggest "...the step of: applying interface groups to communication of ICMP packets." Moreover, Appellant has presented arguments as to McDysan not disclosing the subject matter of claims from which claims 13 and 32 depend. Accordingly, even if an attempt were made to combine the teachings of the Holden reference and the McDysan reference, such an attempted combination would not yield the subject matter of claims 13 and 32. Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 13 and 32. Therefore, Appellant submits claims 13 and 32 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 13 and 32, the Examiner states as follows:

Regarding Claims 13 and 32, Applicant states "even if an attempt were made to combine the teachings of the Holden reference and the McDysan reference, such an attempted combination would not yield the subject matter of Claims 13 and 32." Examiner respectfully disagrees. Per MPEP 2143.01: "The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art, and all teachings in the prior art must be considered to the extent that they are in analogous arts." The McDysan, Oguchi, and Holden references are directed to processing data packets and are therefore in analogous arts. Holden further discloses a secure network interface unit (SNIU) that marks the protocol and type fields to indicate

an ICMP Echo Reply, signs the packet, and sends through an interface (column 20, line 66 - column 21, line 10).

Appellant notes the Examiner alleges "Holden further discloses a secure network interface unit (SNIU) that marks the protocol and type fields to indicate an ICMP Echo Reply." Thus, Appellant submits the Examiner appears to characterize the teachings of Holden in a manner that teaches away from the subject matter of claims 13 and 32. Appellant notes claims 13 and 32 depend indirectly from claims 1 and 20, which recite "marking packets carrying the Layer-3 control information," while the Examiner alleges teaching as to marking "an ICMP Echo Reply." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 13 and 32. Therefore, Appellant submits claims 13 and 32 are in condition for allowance.

**The Fifth Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 14 and 33 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Ogushi et al. (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 4 and 23 above, and further in view of Pan et al. (United States Patent 7,336,615). Appellant respectfully disagrees.

**Claim 14 and 33:**

Regarding claims 14 and 33, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claims 14 and 33. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups further comprises the step of: applying interface groups to communication of ping packets." While the Examiner cites "(column 14, lines 48-55)" of the Pan reference, Appellant submits the cited portion of the Pan reference does not disclose or suggest "...the step of: applying interface

groups...." Moreover, Appellant has presented arguments as to McDysan not disclosing the subject matter of claims from which claims 14 and 33 depend. Accordingly, even if an attempt were made to combine the teachings of the Pan reference and the McDysan reference, such an attempted combination would not yield the subject matter of claims 14 and 33. Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 14 and 33. Therefore, Appellant submits claims 14 and 33 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 14 and 33, the Examiner states as follows:

Regarding Claims 14 and 33, Applicant states "even if an attempt were made to combine the teachings of the Pan reference and the McDysan reference, such an attempted combination would not yield the subject matter of Claims 14 and 33." Examiner respectfully disagrees. Per MPEP 2143.01: "The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art, and all teachings in the prior art must be considered to the extent that they are in analogous arts." The McDysan, Oguchi, and Pan references are directed to processing data packets and are therefore in analogous arts. With regards to the claim limitation "applying interface groups to communication of ping packets," Pan discloses assigning predetermined port numbers to LSP ping messages (column 14, lines 4855).

Appellant submits "assigning predetermined port numbers to LSP ping messages" fails to disclose or suggest applying interface groups to determine when marking of control packets is to be done, wherein applying interface groups to determine when marking of control packets is to be done comprises applying interface groups to communication of ping packets, and marking packets carrying Layer-3 control information, as "assigning predetermined port numbers to LSP ping messages" does not teach or suggest "to determine when marking of control packets is to be done." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 14 and 33. Therefore, Appellant submits claims 14 and 33 are in condition for allowance.

**The Sixth Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 15 and 34 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent No. 7,046,680) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 4 and 23 above, and further in view of Fotedar et al. (United States Patent Application Publication 2004/0085965 A1). Appellant respectfully disagrees.

**Claim 15 and 34:**

Regarding claims 15 and 34, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claims 15 and 34. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups further comprises the step of: applying interface groups to communication of traceroute packets." While the Examiner cites "(paragraph 0011)" of the Fotedar reference, Appellant submits the cited portion of the Fotedar reference does not disclose or suggest "...the step of: applying interface groups...." Moreover, Appellant has presented arguments as to McDysan not disclosing the subject matter of claims from which claims 15 and 34 depend. Accordingly, even if an attempt were made to combine the teachings of the Fotedar reference and the McDysan reference, such an attempted combination would not yield the subject matter of claims 15 and 34. Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 15 and 34. Therefore, Appellant submits claims 15 and 34 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 15 and 34, the Examiner states as follows:

Regarding Claims 15 and 34, Applicant states "even if an attempt were made to combine the teachings of the Fotedar reference and the McDysan reference, such an attempted combination would not yield the subject matter of Claims 15 and 34." Examiner respectfully disagrees. Per MPEP 2143.01: "The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art, and all teachings in the prior art must be considered to the extent that they are in analogous arts." The McDysan, Oguchi, and Fotedar references are directed to processing data packets and are therefore in analogous arts. Further, Fotedar discloses assignment of traceroute packets to a virtual router address indicative of a loopback interface (paragraph 0011).

Appellant submits "assignment of traceroute packets to a virtual router address indicative of a loopback interface" fails to disclose or suggest applying interface groups to determine when marking of control packets is to be done, wherein applying interface groups to determine when marking of control packets is to be done comprises applying interface groups to communication of traceroute packets, and marking packets carrying Layer-3 control information, as "assignment of traceroute packets to a virtual router address indicative of a loopback interface" does not teach or suggest "to determine when marking of control packets is to be done." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 15 and 34. Therefore, Appellant submits claims 15 and 34 are in condition for allowance.

**The Seventh Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 16 and 35 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 4 and 23 above, and further in view of Tuomenoksa et al. (United States Patent Application Publication 2002/0023210 A1). Appellant respectfully disagrees.

**Claim 16 and 35:**

Regarding claims 16 and 35, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claims 16 and 35. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest "wherein the step of applying interface groups further comprises the step of: applying interface groups to communication of packets from Network Operations Center (NOC) hosts." While the Examiner cites "(paragraph 0136)" and "(paragraphs 0141-0143)" of the Tuomenoksa reference, Appellant submits the cited portion of the Tuomenoksa reference does not disclose or suggest "...the step of: applying interface groups...." Moreover, Appellant has presented arguments as to McDysan not disclosing the subject matter of claims from which claims 16 and 35 depend. Accordingly, even if an attempt were made to combine the teachings of the Tuomenoksa reference and the McDysan reference, such an attempted combination would not yield the subject matter of claims 16 and 35. Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 16 and 35. Therefore, Appellant submits claims 16 and 35 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 16 and 35, the Examiner states as follows:

Regarding Claims 16 and 35, Applicant states "even if an attempt were made to combine the teachings of the Tuomenoksa reference and the McDysan reference, such an attempted combination would not yield the subject matter of Claims 16 and 35." Examiner respectfully disagrees. Per MPEP 2143.01: "The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art, and all teachings in the prior art must be considered to the extent that they are in analogous arts." The McDysan, Oguchi, and Tuomenoksa references are directed to processing data packets and are therefore in analogous arts. Further, Tuomenoksa discloses setting up a tunnel interface with a NOC (paragraph 0136) and communicating packets, including control information, with the NOC via the tunnel (paragraphs 0141-0143).

Appellant submits "setting up a tunnel interface with a NOC (paragraph 0136) and communicating packets, including control information, with the NOC via the tunnel (paragraphs 0141-0143)" fails to disclose or suggest applying interface groups to determine when marking of control packets is to be done, wherein applying interface groups to determine when marking of control packets is to be done comprises applying interface groups to communication of packets from Network Operations Center (NOC) hosts, and marking packets carrying Layer-3 control information, as "setting up a tunnel interface with a NOC (paragraph 0136) and communicating packets, including control information, with the NOC via the tunnel (paragraphs 0141-0143)" does not teach or suggest "to determine when marking of control packets is to be done." Moreover, Appellant submits "setting up a tunnel interface with a NOC" does not disclose or suggest "applying interface groups to communication of packets from Network Operations Center (NOC) hosts." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 16 and 35. Therefore, Appellant submits claims 16 and 35 are in condition for allowance.

**The Eighth Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 18 and 37 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 1 and 20 above, and further in view of Johansson (United States Patent 6,061,330). Appellant respectfully disagrees.

**Claim 18 and 37:**

Regarding claims 18 and 37, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claims 18 and 37. As an example,

Appellant submits the cited portions of the cited references do not disclose or suggest "receiving unmarked control packets using rate-limited queues." While the Examiner cites "(Figure 1, 116; Figure 4a, 410)" of the Johansson reference, Appellant submits the Examiner does not allege the cited portion of the Johansson reference as disclosing or suggesting "receiving unmarked control packets using rate-limited queues." Rather, Appellant notes the Examiner alleges McDysan discloses "the unmarked control packets (i.e., packets received prior to being marked)" without citing any portion of the McDysan reference as allegedly teaching such subject matter. Moreover, Appellant has presented arguments as to McDysan not disclosing the subject matter of claims from which claims 18 and 37 depend. For example, Appellant submits McDysan fails to disclose "...control packets." Accordingly, even if an attempt were made to combine the teachings of the Johansson reference and the McDysan reference, such an attempted combination would not yield the subject matter of claims 18 and 37. Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 18 and 37. Therefore, Appellant submits claims 18 and 37 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 18 and 37, the Examiner states as follows:

Regarding Claims 18 and 37, Applicant states that the cited portions of the cited references do not disclose "control packets." Applicant further states "even if an attempt were made to combine the teachings of the Johansson reference and the McDysan reference, such an attempted combination would not yield the subject matter of Claims 18 and 37." Examiner respectfully disagrees. The claim language "control packets" is not further defined in the claim language so as to further limit the content or structure of the claimed "control packet." As such, Examiner has given the claim term its broadest reasonable interpretation without unnecessarily importing limitations from the specification and interpreted "control packet" to comprise any messaging related to control of communications (e.g., setup, teardown, parameter management, etc.). Further, per MPEP 2143.01: "The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art, and all teachings in the prior art must be considered to the extent that they are in analogous arts." The McDysan, Oguchi, and Johansson references are directed to processing data

packets and are therefore in analogous arts." While McDysan discloses processing control information in a network (paragraphs 0037 and 0042), the combination of McDysan and Oguchi does not disclose processing the control packets at a line rate. In the same field of endeavor, Figure 4a, step 410 of Johansson "determines when a predetermined number Input RateLimit of Cells are received" (column 10, lines 45-47). As such, Johansson provides a general teaching of a rate-limited queue receiving packets.

Appellant submits the Examiner does not appear to allege any teaching or suggestion as to, for example, "unmarked control packets." Rather, Appellant notes, with respect to claims 1 and 20, from which claims 18 and 37 depend, the Examiner alleges "...McDysan discloses marking packets via a DSCP code point in IP packet...." Thus, Appellant submits the combination of references cited by the Examiner appear to teach away from "unmarked control packets." Moreover, Appellant submits the "cells" of Johansson fail to disclose or suggest "unmarked control packets." Accordingly, Appellant submits the Examiner has not made a *prima facie* showing of obviousness as to claims 18 and 37. Therefore, Appellant submits claims 18 and 37 are in condition for allowance.

#### **The Ninth Ground of Rejection to be Reviewed upon Appeal:**

The Examiner has rejected claims 19 and 38 under 35 U.S.C. § 103(a) as allegedly being unpatentable over McDysan et al. (U.S. Patent Application Publication 2003/0112755 A1) in view of Oguchi et al. (U.S. Patent Publication No. US 2002/0067725 A1) as applied to claims 1 and 20 above, and further in view of Hussey et al. (United States Patent Application Publication 2001/0049744 A1). Appellant respectfully disagrees.

#### **Claim 19 and 38:**

Regarding claims 19 and 38, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claims 19 and 38. As an example,

Appellant submits the cited portions of the cited references do not disclose or suggest "receiving the packets as received packets; and processing the received packets at a line rate." While the Examiner cites "(paragraph 0050)" of the Hussey reference, Appellant submits "(paragraph 0050)" of the Hussey reference states, in part, "...receives a packet data stream via the communication network 110 at a line rate...." Appellant submits such teaching does not disclose or suggest "receiving the packets as received packets" and "processing the received packets at a line rate." Moreover, Appellant has presented arguments as to McDysan not disclosing the subject matter of claims from which claims 19 and 38 depend. Accordingly, even if an attempt were made to combine the teachings of the Hussey reference and the McDysan reference, such an attempted combination would not yield the subject matter of claims 19 and 38. Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 19 and 38. Therefore, Appellant submits claims 19 and 38 are in condition for allowance.

In the Examiner's Response to Arguments, regarding claims 19 and 38, the Examiner states as follows:

Regarding Claims 19 and 38, Applicant states "even if an attempt were made to combine the teachings of the Johansson reference and the McDysan reference, such an attempted combination would not yield the subject matter of Claims 19 and 38." Examiner notes that the Johanson reference is not relied upon for rejection of Claims 19 and 38 under 35 U.S.C. 103(a). Per MPEP 2143.01: "The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art, and all teachings in the prior art must be considered to the extent that they are in analogous arts." The McDysan, Oguchi, and Hussey references are directed to processing data packets and are therefore in analogous arts. Further, Hussey discloses a processor pool aggregation technique wherein a communication device "receives a packet data stream via the communication network ... at a line rate that might otherwise overwhelm the processing capabilities of the NIC ... and result in dropped packets and reduced quality of service" (paragraph 0050).

Regarding claims 19 and 38, Appellant submits the cited portions of the cited references fail to render obvious the subject matter of claims 19 and 38. As an example, Appellant submits the cited portions of the cited references do not disclose or suggest

"receiving the packets as received packets; and processing the received packets at a line rate." While the Examiner cites "(paragraph 0050)" of the Hussey reference, Appellant submits "(paragraph 0050)" of the Hussey reference states, in part, "...receives a packet data stream via the communication network 110 at a line rate...." Appellant submits such teaching does not disclose or suggest "receiving the packets as received packets" and "processing the received packets at a line rate." Moreover, Appellant has presented arguments as to McDysan not disclosing the subject matter of claims from which claims 19 and 38 depend. Accordingly, even if an attempt were made to combine the teachings of the Hussey reference and the McDysan reference, such an attempted combination would not yield the subject matter of claims 19 and 38. Thus, Appellant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claims 19 and 38. Therefore, Appellant submits claims 19 and 38 are in condition for allowance.

## **CLAIMS APPENDIX**

1. (Previously Presented) A method for communicating Layer-3 control information in a communications network comprising the steps of:  
marking packets carrying the Layer-3 control information;  
encapsulating the packets at Layer-2 to uniquely identify Layer-2 frames as carrying trusted control information.
2. (Original) The method of claim 1 wherein the step of marking further comprises:  
marking the packets using a unique protocol identifier.
3. (Original) The method of claim 1 wherein the step of marking further comprises:  
marking the packets using a link-local MPLS label.
4. (Original) The method of claim 1 further comprising the step of:  
applying interface groups to determine when marking of control packets is to be done.
5. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:  
applying interface groups to packet communications within a particular interface group.
6. (Original) The method of claim 5 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:

applying interface groups to packet communications within a backbone interface group.

7. (Original) The method of claim 5 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:

applying interface groups to packet communications within a customer-specific interface group.

8. (Original) The method of claim 5 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:

applying interface groups to packet communications within a peer interface group.

9. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:

applying interface groups to packet communications between interface groups.

10. (Original) The method of claim 9 wherein the step of applying interface groups to packet communications between interface groups further comprises the step of:

applying interface groups to packet communications between backbone and customer-specific interface groups.

11. (Original) The method of claim 9 wherein the step of applying interface groups to packet communications between interface groups further comprises the step of:

applying interface groups to packet communications between customer-specific and peer interface groups.

12. (Original) The method of claim 9 wherein the step of applying interface groups to packet communications between interface groups further comprises the step of: applying interface groups to packet communications between backbone and peer interface groups.

13. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:  
applying interface groups to communication of ICMP packets.

14. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:  
applying interface groups to communication of ping packets.

15. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:  
applying interface groups to communication of traceroute packets.

16. (Original) The method of claim 4 wherein the step of applying interface groups further comprises the step of:  
applying interface groups to communication of packets from Network Operations Center (NOC) hosts.

17. (Original) The method of claim 1 wherein the step of encapsulating the packets further comprises:  
encapsulating the packets according to control encapsulation.

18. (Original) The method of claim 1 further comprising:  
receiving unmarked control packets using rate-limited queues.

19. (Original) The method of claim 1 further comprising:  
receiving the packets as received packets; and  
processing the received packets at a line rate.

20. (Previously Presented) An apparatus comprising a network element for  
communicating Layer-3 control information in a communications network adapted to  
perform the steps of:  
marking packets carrying the Layer-3 control information;  
encapsulating the packets at Layer-2 to uniquely identify Layer-2 frames as carrying  
trusted control information.

21. (Original) The apparatus of claim 20 wherein the step of marking further  
comprises:  
marking the packets using a unique protocol identifier.

22. (Original) The apparatus of claim 20 wherein the step of marking further  
comprises:  
marking the packets using a link-local MPLS label.

23. (Original) The apparatus of claim 20 wherein the network element is further  
adapted to perform the step of:  
applying interface groups to determine when marking of control packets is to be done.

24. (Original) The apparatus of claim 23 wherein the step of applying interface groups further comprises the step of:  
applying interface groups to packet communications within a particular interface group.
25. (Original) The apparatus of claim 24 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:  
applying interface groups to packet communications within a backbone interface group.
26. (Original) The apparatus of claim 24 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:  
applying interface groups to packet communications within a customer-specific interface group.
27. (Original) The apparatus of claim 24 wherein the step of applying interface groups to packet communications within a particular interface group further comprises the step of:  
applying interface groups to packet communications within a peer interface group.
28. (Original) The apparatus of claim 23 wherein the step of applying interface groups further comprises the step of:  
applying interface groups to packet communications between interface groups.
29. (Original) The apparatus of claim 28 wherein the step of applying interface groups to packet communications between interface groups further comprises the step

of:

applying interface groups to packet communications between backbone and customer-specific interface groups.

30. (Original) The apparatus of claim 28 wherein the step of applying interface groups to packet communications between interface groups further comprises the step of:

applying interface groups to packet communications between customer-specific and peer interface groups.

31. (Original) The apparatus of claim 28 wherein the step of applying interface groups to packet communications between interface groups further comprises the step of:

applying interface groups to packet communications between backbone and peer interface groups.

32. (Original) The apparatus of claim 23 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of ICMP packets.

33. (Original) The apparatus of claim 23 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of ping packets.

34. (Original) The apparatus of claim 23 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of traceroute packets.

35. (Original) The apparatus of claim 23 wherein the step of applying interface groups further comprises the step of:

applying interface groups to communication of packets from Network Operations Center (NOC) hosts.

36. (Original) The apparatus of claim 20 wherein network element is further adapted to encapsulate the packets according to control encapsulation.

37. (Original) The method of claim 20 wherein the network element is further adapted to receive unmarked control packets using rate-limited queues.

38. (Original) The apparatus of claim 20 wherein the network element is further adapted to receive the packets as received packets and to process the received packets at a line rate.

## EVIDENCE APPENDIX

As presently advised, no evidence was submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132. Appellant mailed an information disclosure statement PTO/SB/08 on June 7, 2004, citing VIJAY GILL, JOHN HEASLY, and DAVID MEYER; The BGP TTL Security Hack (BTSH); 2002; Phoenix, AZ, USA. Appellant mailed an information disclosure statement PTO/SB/08 on November 15, 2004, citing JOHANSSON, P.; "IPv4 Over IEEE 1394"; Network Working Group Request for Comments: 2734; December 1999; Pgs. 1-29; The Internet Society; H.T. KUNG, ET AL.; "TCP Trunking: Design, Implementation and Performance"; October 31, 1999; Pgs. 222-231; HARVARD UNIVERSITY; Cambridge, MA, USA; ARMITAGE, GRENVILLE; "MPLS: The Magic Behind the Myths"; IEEE Communications Magazine; January 2000; Pgs. 124-131; IEEE Service Center; Piscataway, N.J.; USA; M. BALTATU, ET AL.; "Security Issues in Control, Management and Routing Protocols"; Computer Networks; December 2000; Pgs. 881-894; Volume 34, No. 6; Elsevier Science Publishers B.V.; Amsterdam,, NL; and ED OSKIEWICZ, ET AL.; "A Model for Interface Groups"; ANSA; May 19, 1994; Pgs. 1-38; Retrieved From the Internet; Cambridge, United Kingdom. Appellant mailed an information disclosure statement PTO/SB/08 on February 15, 2005, citing WO 01/69852 A2, 09-20-2001, of Riverdelta Networks, and HLUCHYJ M G ET AL.: "Queueing Disciplines for Integrated Fast Packet Networks" Discovering a New World of Communications, Chicago, June 14-18, 1992, Pages 990-996, Vol. 4, IEEE, New York, USA. In the Notice of References Cited (Form PTO-892) included with the Office action mailed June 27, 2007, the Examiner cited U.S. Patent No. 6,731,652, issued to Ramfelt et al., U.S. Patent No. 7,126,952, issued to Hooper et al., and U.S. Patent Application Publication 2003/0112749, of Hassink et al. In the Notice of References Cited (Form PTO-892) included with the Office action mailed April 23, 2008, the Examiner cited U.S. Patent No. 7,046,680, issued to McDysan et al., U.S. Patent Application

Publication 2002/0116501 A1, of Ho et al., U.S. Patent No. 6,061,330, issued to Johansson, U.S. Patent Application Publication 2001/0049744 A1, of Hussey et al., U.S. Patent Application Publication 2004/0054924 A1, of Chuah et al., U.S. Patent Application Publication 2004/0010583 A1, of Yu et al., U.S. Patent 7,336,615, issued to Pan et al., U.S. Patent Application Publication 2002/0085498 A1, of Nakamichi et al., and U.S. Patent Application Publication 2004/0085965 A1, of Fotedar. With Appellant's response mailed July 23, 2008, Appellant included a copy of the then-current Wikipedia (<http://en.wikipedia.org>) entry for Layer 2 Tunneling Protocol (L2TP). In the Notice of References Cited (Form PTO-892) included with the Office action mailed November 24, 2008, the Examiner additionally cited U.S. Patent Application Publication 2003/0152078 A1, of Henderson et al. In the Notice of References Cited (Form PTO-892) included with the Office action mailed June 5, 2009, the Examiner additionally cited Almquist, RFC 1349: Type of Service in the Internet Protocol Suite, July 1992, Internet Engineering Task Force Network Working Group and The OSI Reference Model, October 20, 2002, Available online: [http://web.archive.org/web/20021020084747/http://www.thecertificationhub.com/networkplus/the\\_osi\\_ref\\_model.htm](http://web.archive.org/web/20021020084747/http://www.thecertificationhub.com/networkplus/the_osi_ref_model.htm). In the Notice of References Cited (Form PTO-892) included with the Office action mailed February 22, 2010, the Examiner cited U.S. Patent No. 5,802,178, issued to Holden et al.; U.S. Patent Application Publication 2002/0023210, of Tuomenoksa et al.; U.S. Patent Application Publication 2003/0112755, of McDysan; and U.S. Patent Application Publication 2002/0067725, of Oguchi et al. As the Examiner relied upon the following evidence in support of the final rejection, Appellant relies upon such evidence in the appeal: U.S. Patent Application Publication 2003/0112755, of McDysan; U.S. Patent Application Publication 2002/0067725, of Oguchi et al.; U.S. Patent Application Publication 2002/0085498 A1, of Nakamichi et al.; U.S. Patent Application Publication 2004/0010583 A1, of Yu et al.; U.S. Patent No. 5,802,178, issued to Holden et al.; U.S. Patent 7,336,615, issued to Pan

et al.; U.S. Patent Application Publication 2004/0085965 A1, of Fotedar; U.S. Patent Application Publication 2002/0023210, of Tuomenoksa et al.; U.S. Patent No. 6,061,330, issued to Johansson; and U.S. Patent Application Publication 2001/0049744 A1, of Hussey et al., copies of which are provided below.



## RELATED PROCEEDINGS APPENDIX

As stated above, as presently advised, there are no other prior or pending appeals, interferences, or judicial proceedings known to Appellant, the Appellant's legal representative, or Assignee which may be related to, directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal. Thus, no copies of decisions rendered by a court or by the Board are provided.

Respectfully submitted,

06/14/2011

Date

A handwritten signature in cursive ink that appears to read "Ross D. Snyder".

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